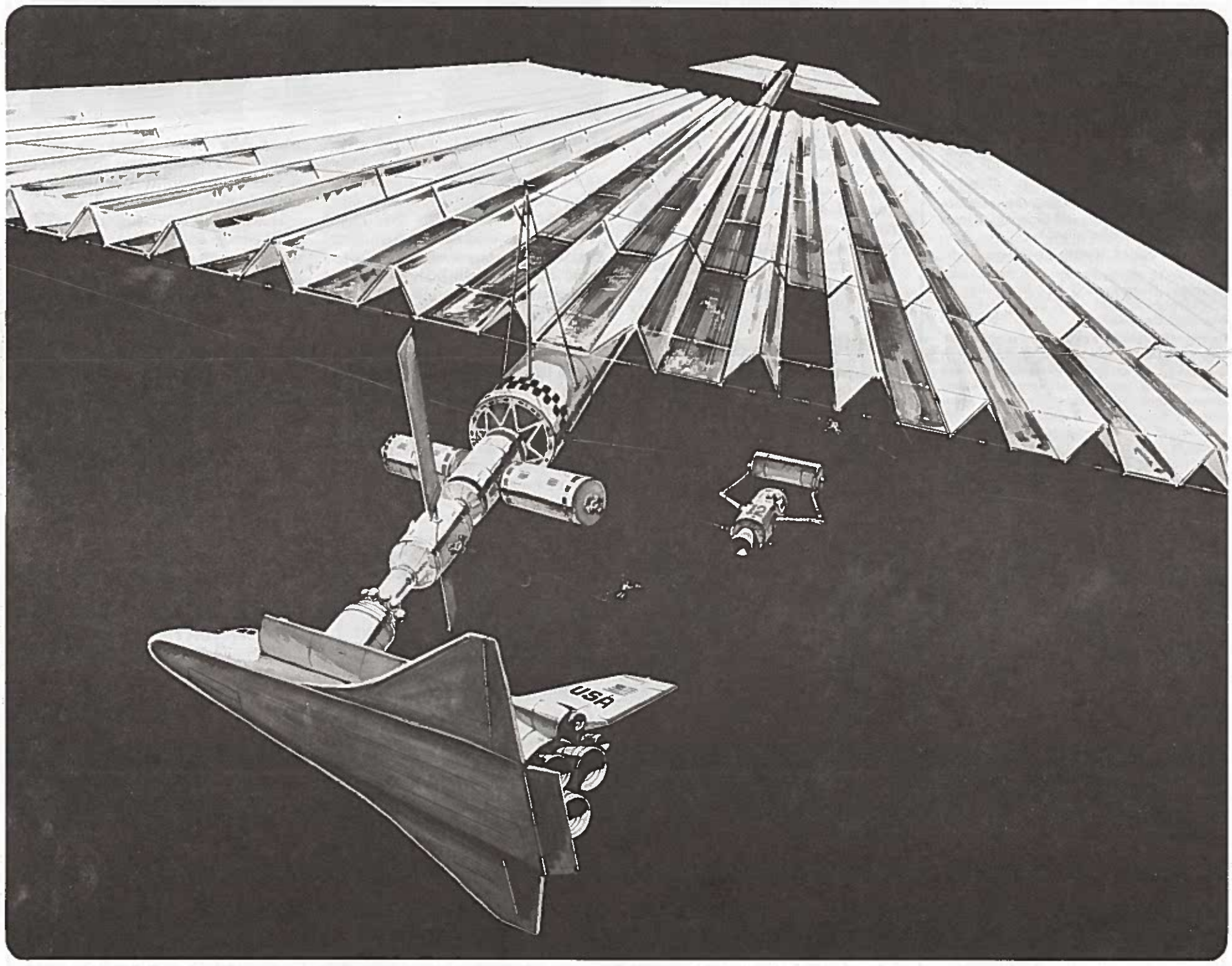
GRUMMAN
plane news

Vol. 35, No. 6, Bethpage, N.Y., March 26, 1976



NASA win spurs space effort

During the next 18 months, Grumman Aerospace will be conducting a study for NASA on space station systems projected for the mid-1980s. One of the applications contained in the GAC winning proposal is depicted in this rendering by Bud Parke of Presentation Services. A modular space station, equipped to collect solar energy to generate and transmit electrical power to earth, is being serviced by a space shuttle orbiter bringing provisions and crew members.

(See contract award story on page 3)

calendar

Aikido Club: every Mon. & Wed., 5:15 p.m., Pl. 35 cafe; guests welcome. Bob Bauman, x84636.

Alcoholics Anonymous: every Mon., 5 p.m., Pl. 39, classroom 1; closed mtgs. Personnel Relations, x3521.

Chess Club: every Tues., 5 p.m., Pl. 30 cafe; guests welcome. Pat Charovkine, x9387.

Coin Club (Calverton): every Fri., 1st lunch period, instrumentation conference room, Pl. 6; visitors welcome.

Duplicate Bridge Club: every Thurs., 6 p.m., Pl. 30 cafe; open competition; guests welcome. Hugh Montague, x3863/Erick Stern, x1294.

Fencing Club: every Mon., 4:30-6:00 p.m., Pl. 30 cafe. George Kegney, x86048.

Grumman Cycle Touring Club: Sun., Mar. 28, 9 a.m., from Nassau Community College to Sagamore Hill; guests welcome. Don Gormley, x9855.

Grumman Family Campers: Sun. April 4, 5 p.m., Pl. 3 cafe; local chapter; monthly meeting; guests welcome. R. Mansbart, x86967.

Grumman Model Railroad Society: every Wed., 5:30-9:30 p.m., Model RR Bldg. (at Pl. 3 rr crossing); reg. mtg.; guests welcome. Ray Muntz, x87409.

Grumman Scuba Divers Club: Wed., April 7, 5 p.m., Pl. 28 lobby; reg. mtg.; guests welcome. Cindy Schlicter, x6120.

Karate Club: every Mon., Tues., & Thurs., 5:30 p.m., Pl. 35 cafe; building character thru physical exercise & self-defense; guests welcome. Hy Dreksler, x86812.

Society of Allied Weight Engineers: Mon., April 5, 12 noon, Francesco's Restaurant, Bethpage, Hempstead Tpke.; local chapter; executive committee mtg.; guests welcome. John Horan, x9563/7292.

Society of Logistics Engineers: Fri., Mar. 30, 5:45-9:00 p.m., Holiday Manor, Bethpage; Dist. 10, Chapter 1; guest speaker: Kurt Merl, v.p., general manager of Sperry Systems Management Division—"Systems Management & Logistics Engineering;" guests welcome. Ken Webster, x1576/Vahe Jordan, x1936. Work shop offered prior to meeting at 5 p.m., Manor Room, Holiday Manor—"The Requirements To Become A Certified Professional Logistician (CPL)."

Stamp Club: first 3 Wed. of each month, 5 p.m., Pl. 30 cafe. Steve Hoops, x3926.

obituaries

FRANCIS C. BERTULIS of Sub-Assy. Major, Plant 1, died March 4 at the age of 41. He had been with the company since 1962 and lived at 2 Meadowlark Drive, E. Northport.

THOMAS CHARLES SHANNON of Plant Protection, Plant 77, died March 7 at the age of 60. He had been with Grumman since 1968 and lived at 219 Hickory Ridge Road, Jensen Beach, Florida.

CATHERINE ZUK of Employee Service Center, Plant 2, died March 9 at the age of 56. She had been with Grumman since 1952 and lived at 712 Brush Hollow Road, Westbury.

Personal

We thank all the many friends of "Hap" Myers for their kindness and various expressions of sympathy at the time of our recent bereavement. You have been a great help in our time of need. The W.R. Myers Family

My gratitude and appreciation to all my friends who expressed sympathy on the recent death of my father Urbano. Peter Bandini.

Our sincere thanks to all who extended much kindness and understanding to us at the time of our great loss. The Harry Gavers Family.

people

Two weeks ago, General William Evans, who is commander of the Air Force Systems Command based at Wright-Patterson AFB, visited Grumman to review progress on the B-1 Composite Horizontal Stabilizer Program. General Evans is shown at right examining the stabilizer in Plant 5 with (L-R) Art August, deputy director of Advanced Systems Technology; Walt Ludwig, B-1 program manager; and Bill Spiegel, B-1 program director.

During his visit to Bethpage Evans was briefed on Grumman's latest technology efforts to reduce composite manufacturing costs, toured the assembly and test areas in Plant 5, viewed preparations for a fatigue test on a stabilizer and inspected components of the flight stabilizer for the B-1. According to Ludwig, General Evans was impressed with the amount of hardware already fabricated and the progress on the program, and expressed great interest in technology advances by Grumman being incorporated in the project.

Trading up

Anyone who went to the GAA '75 Hobby Show probably remembers the name of Stephen O'Brien. He entered a 1/8 scale model of a Bridgeport milling machine and it was such an attraction it won the Grand Award.

When the people at Bridgeport Machines heard of his work, they invited him to their plant and gave him the VIP treatment. Before he left the plant that day, O'Brien was told by the president that the company would like to acquire his model and offered either cash or a new full-size model in exchange. Steve chose the machine, quite naturally, and will put it in his large basement. Since he is scheduled to retire on March 26, he has some plans for his new acquisition.

O'Brien says that "with such a great machine, I'll be happy and active during my retirement. I couldn't stand being idle." Since his hobby show award, he says he's heard from other manufacturers who would like him to make models of their products.

His friends at Grumman will miss Steve and wish him happiness during his retirement. Charlie Cava, his supervisor, says: "Steve is a top machinist, he's very cooperative and is willing to go out of his way. I'll really miss him."

Intruder vet. Lt. Bill Hill of the Navy Program Office at Bethpage recorded his 1000th flight hour in the Grumman A-6 last month, exactly seven years after he first started flying the all-weather attack aircraft. Shown here receiving a plaque to commemorate the event from A-6 Director Bill Trillo, Hill lists two deployments aboard the carrier Independence to the Mediterranean in his log book, now test flies EA-6B Prowlers as well as Intruders at Calverton, and has about 40 hours flight time in the F-14 Tomcat, too.

Appointments ...

Among those who recently received changes in assignments are: MANUFACTURING—Wainwright Carlough, foreman, Major Assy. Department, Plant 27; John Jund, foreman, Major Assy. Department, Plant 36; Cleo Rhodes, foreman, Sub-Assy. Department, Plant 27; John Dickinson is appointed staff assistant to Frank Messina; DEPARTMENTAL OPERATIONS—Oscar H. Smith Jr., assistant to the support program manager, ATE Systems, Smith is responsible for coordinating all efforts associated with the Integrated Logistics Support of the CAT-D Program; Guy F. Bizzoco, support program manager, CAINS & CAT-D Programs, ATE Systems, both in the ILS; and in ENGINEERING—George Frankel, section head, Structural/Mechanical/Environmental Test; John Calandra, design project leader, Advanced All-Weather Attack, Radar Guided Weapon System; James J. Williams, system project leader, Advanced All-Weather Attack, Radar Guided Weapon System Concept Program; and Millard Griffiths, principal engineer, Engineering Test Operations.

NASA contract spurs space station study

News travels fast—especially when it's good news—it didn't take long for the word to spread that Grumman Aerospace was one of the two aerospace firms selected by the National Aeronautics and Space Administration (NASA) to conduct space station systems analysis studies.

When the first flight of the Space Shuttle Orbiter takes place in 1979, it will mark the beginning of a new era of space travel. Designed as a manned, re-usable space plane, the Orbiter will provide highly reliable, low-cost transportation of payloads between earth and low-earth orbit.

NASA has been reviewing several concepts to work and live in space for inclusion in the Shuttle program. One such concept is the Space Station.

Developing space experience

"The Mercury, Gemini, and Apollo programs introduced the research-and-exploration eras," says Dick Kline, Grumman's Space Station Program Manager. "We are now entering the Space Shuttle era and, Space Station capitalizes upon this transportation system to apply and further develop the experience we have accumulated from past programs and significantly exploit space to benefit our earth."

The first phase of the 18-month study awarded to Grumman will deal with the elements required to build a permanent modular space station operating at low or synchronous earth orbit. It will also entail researching various vehicles and support systems needed to operate the station...such as space tugs and space construction vehicles, says Kline.

After the basic requirements are investigated, the Grumman space team in Plant 25 will then look at the various functions that the space station can perform as an operational base, including:

- test and construction facility to support the manufacturing, fabrication, and assembly of large space structures
- participation in the retrieval and repair of existing spacecraft
- an orbital propellant depot to refuel transfer systems carrying payloads from low- to high-earth orbit or to an escape orbit.

The study will also include investigation of the space station as a space laboratory. Another application the Grumman team has been studying is in the area of solar energy.

"We have been pursuing enthusiastically the role of the space station as a construction site of a large solar energy station that would eventually transmit energy back to earth while operating in synchronous orbit," says Kline. "One concept utilizes the Space Shuttle's external tanks, which normally would be detached from the Orbiter after entry into space, as the backbone of a large structure of solar-energy collector panels. Men would be actually working in space construction, assembling the solar panels. Since this space station would be in synchronous orbit (remaining in stationary orbit over a designated location on earth), this energy collected in space could be transmitted down to earth."

As a space laboratory, the space station could provide accommodations for materials processing, research-and-development leading to commercial manufacturing (not only in metals but also in pharmaceuticals etc.), basic and applied physical sciences, earth observations and applications, space physics and astronomy, life sciences research, etc. Continued development of sensor technology for navigation, earth surveys, and weather and climate research could also be performed in the Space Station laboratories.

"As a space laboratory, the space station offers a new capability that would open numerous space frontiers for benefit to us on earth."

Although the space station is still in the study analysis stage, with a projected operation date of 1985, should NASA decide to go ahead with the concept Grumman Aerospace will certainly have a strong foundation to compete for the hardware program.

Both Grumman Aerospace and McDonnell Douglas Astronautics Company, the other firm named by NASA for the Space Station study contract, will begin work on April 1. The NASA Marshall Space Flight Center in Huntsville, Alabama, will manage the Grumman study. The McDonnell Douglas study will be managed by NASA Johnson Space Center in Houston, Texas. Proposals on the studies were also submitted to NASA by Rockwell International Space Division, Downey, California, and Boeing Aerospace Co., in Seattle, Washington.

Major subcontractors assisting the company in the study will be Arthur D. Little Co., Raytheon, and Spectro Lab.

This $700,000 study contract from NASA is the latest in an unprecedented series of research-and-development awards to Grumman since the first of the year. Thus far in 1976, over 20 contracts totaling over $30-million have been awarded to the company. That sum is more than the total in research-and-development contracts for 1975. "These awards have been a significant factor in helping to stabilize engineering employment," states Board Chairman and President George Skurla, "and in building a solid base for possible future hardware programs."

Investment talk

On Thursday, April 1, representatives of the Fiduciary Trust Company will meet with all interested participants of the Grumman Employee Investment Plan at the Plant 30 cafeteria to discuss Fiduciary's investment philosophy and to examine some of the market indicators that influence investment decisions. The meeting starts at 5 p.m. Active participants and retirees are invited to attend.

According to Bob Bradshaw, Secretary of Grumman Corporation, those who attend the meeting will be expected to do it on their own time. Those who find it impossible to attend will be able to follow what occurs at the meeting through a summary printed in PLANE NEWS.

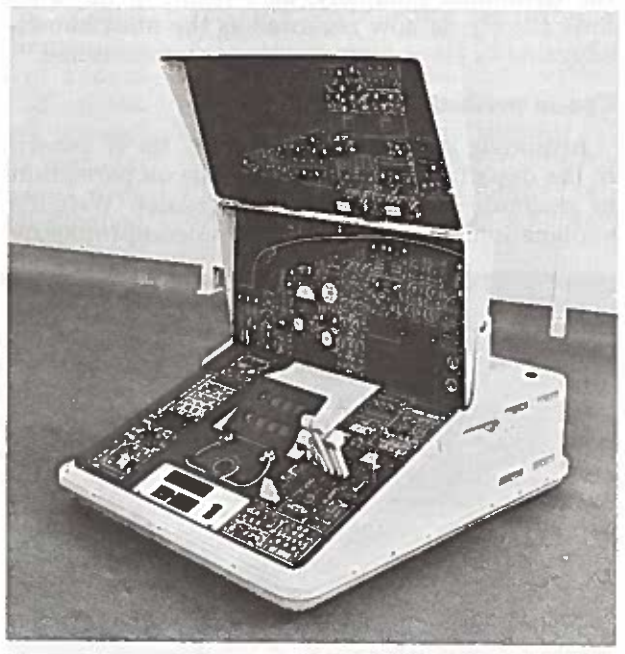
Training Systems shows two firsts

The Training Systems Department of Grumman Aerospace received two firsts in new contracts this month. One, for $7.6 million is to develop a Navy Electronic Warfare Operator Trainer (NEWOT), the first non-aviation training system contract ever awarded to Grumman. The other contract, worth $130,000 for four Suitcase Emergency Procedures Trainers (SEPTRs), is the first trainer order for an aircraft not built by Grumman.

NEWOT, or as it is sometimes called "NEWTS" (for Training System), will be designed, developed, produced and then delivered to the Consolidated Navy Electronic Warfare School at Pensacola, Florida, in the summer of 1978. It will contain equipment for teaching naval officers and enlisted personnel of airborne, submarine, and surface forces in a number of simulated electronic warfare missions.

The computer-managed and assisted NEWOT will provide individual instruction for 20 student stations in the beginning, but it has the capacity for expansion to 50 more stations.

SCEPTR, a portable unit that is being used as a trainer for the A-6E and the E-2C aircraft has brought in $500,000 worth of contracts so far. The new contract is for the USMC Hawker-Sidley AV-8A airplane.



Travelling trainer. The Suitcase Emergency Procedures Trainer (SCEPTR) (model shown here represents an E-2C's controls) is a simulator that can be adapted to various training modes with different displays.

This trainer is a 55-pound model that is easily transported and can easily fit into a car trunk. SCEPTR's half-scale instrument panel is able to recreate a great range of real-life flight or other operational emergencies for a pilot or other specialized operator to react to. Highly adaptable, SCEPTR can be used for training in the operation of "...any vehicle that is procedural," according to Elliot Blond, program manager.

The high price of fuel, the high degree of complexity involved in operating today's aircraft and weapons systems, as well as the impressive advance in simulation techniques are some reasons that interest appears to be growing toward the use of trainers. But perhaps most important, potential pilots can learn and actually get the sense of an aircraft without leaving the ground or risking their lives in their early training periods. These are, of course, the larger simulators that trainees can climb into and get the

(Continued on page 5)

More than toil, hydrofoil craft prove life's work for this designer

Test foil. Ray Wright, chief hydrodynamicist of Marine Programs, displays a model hydrofoil used for testing in Grumman's whirling tank. The model is made of an aluminum alloy.

Ray Wright has a lot in common with hydrodynamics, the science he has devoted his life to. Both are relatively unknown, yet they deserve a great deal of recognition for their dynamic advancements.

As the chief hydrodynamicist for Grumman Marine (a department of Aerospace), Wright is responsible for the design and testing of the struts and foils for all Grumman hydrofoil craft. He has 35 years of engineering experience, has been with Grumman for 15 years, and began studying hydrodynamics over 20 years ago. Wright is probably one of the few people in the world who has been studying hydrodynamic design since its inception, but with characteristic modesty, his only comment is, "You tend to pick up a few points."

Walter Wohleking, director of Marine Programs, viewed Wright's contributions more strongly, "After talking to people from Naval Ships Engineering Center and Naval Ships Research and Development Center, I would say that the Grumman company, as a result of Ray's efforts chiefly, is now regarded as the most knowledgeable as far as hydrodynamics is concerned."

Eye on perfection

Although Wright is soft-spoken, he is known in the department for his insistence on perfection to guarantee accuracy in test results. Wright's explanation for his technically uncompromising attitude: "Look at it this way; we have a two-man hydrodynamic team doing for hydrofoils what an entire aerodynamic department does for aircraft, and do some of the work on boats that would involve three other departments in aircraft design. No other engineer gets that much of a view of the vehicle he's working with. So, for 20 years I've been looking for the most precise, quickest, most efficient way. When you're as limited in time as we are, there's just no time to do things over again. I guess it's a matter of necessity."

Innovative team

The lack of time, as well as many other research problems in hydrodynamics, stem from a need for additional government funding. Says Wright: "We don't have the resources we need to learn all we have to know about the boats—it amounts to less than one percent of the money that has been spent on aircraft development. That's why innovations are hard to come up with."

Since his arrival at Grumman, though, Wright and the hydrodynamic team have come up with three innovations, the most important being the transitting foil. This invention is a new type of foil, radically different than those preceding it, which increased craft speed by approximately 20 knots. The development of the transitting foil is considered comparable to the development of the high-lift, thin-wing in aircraft technology that made transonic speed possible.

Also discovered by the research team was the strut closure angle, which enables a craft to "fly" without air forcing its way down the strut and interfering with the foil's performance, as well as the development of the highest foil-loading capability of any modern craft. That means Grumman foils have as much lift as others of greater size.

Design aid

Research discoveries are not overnight happenings. They are the result of methodical, detailed, and precise work. Correct tools are essential, too. Grumman has a research tool, the whirling tank, that is the only one of its kind in the world. The tank, used for the evaluation of foils, is the hydrodynamic equivalent of a wind tunnel, which gives engineers a chance to test the stability and project performance of aircraft models. Instead of wind, though, the whirling tank provides a waterflow that can simulate speeds up to 100 knots. Water is spun around the edge of the tank (11 feet in diameter) over a stationary foil model, furnishing over 300 measurements an hour. (Using conventional methods, only 10 measurements can usually be taken.) It was in this tank, located in Plant 12, that the transitting foil was developed.

Ray Wright views the 16 year-old tank as Grumman's most valuable tool for hydrodynamic research. "We could never guarantee the performance of a boat without it. It's unlike any other facility." The first known working model of a whirling tank was not quite as refined as the present device, according to Wright. As a matter of fact, it was a washtub mounted on a phonograph turntable and was used to evaluate sailboat hull designs.

The Marine Programs Department in Plant 36 is currently working on the largest hydrofoil ever planned by Grumman, the Hydrofoil Offshore Combatant, or HOC. The program is also the biggest financially, with funding for research, de-

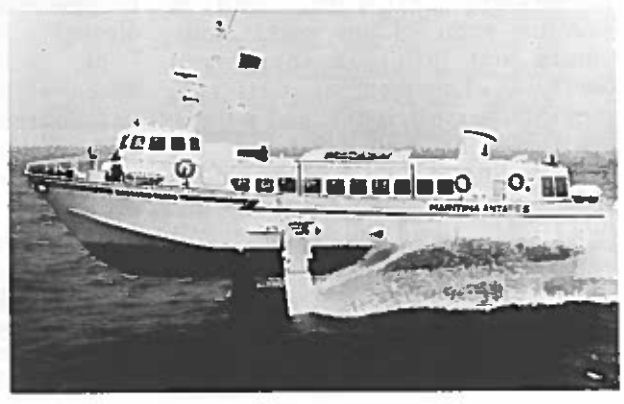
(continued on page 6)

Hydrofoil history

Grumman has been researching, designing, and building hydrofoil craft for over 20 years. During this time, the Marine division has created a variety of boats that have performed outstandingly for both commercial and military purposes.

Besides the first experimental crafts, Grumman has designed the Dolphin, a successful passenger ferry, and the Plainview, an experimental anti-submarine vessel. Those crafts designed and built by Grumman include the H.S. Denison, a Maritime Administration test hydrofoil; and the Flagstaff PG(H) 1, a U.S. Navy hydrofoil gunboat, combat veteran, and experimental Coast Guard craft. Marine Programs' latest design is the Flagstaff PH(H) Mark II; this planned ship has been evaluated for the Coast Guard by the Study Center of Naval Analysis as the best available craft for almost all offshore missions. These hydrofoil ships have made Grumman's record in marine vessels consistently productive.

Pictured here (counter clockwise from lower light) are the Dolphin, Denison, Flagstaff PH(H) 1, and an artist's rendering of the proposed Flagstaff PH(H) Mark II.



Strut for AGEH Plainview designed, built, delivered

The first hydrofoil strut constructed of HY-130 type steel was recently delivered to the Navy's Hydrofoil Special Trials Unit (NYSTU) at the Puget Sound Naval Shipyard in Washington for installation aboard the 320-ton AGEH Plainview, the world's largest hydrofoil ship.

The 30 x 60 foot, 14,000-lb. strut was designed and built in the Product Development Center in Plant 5 under the direction of the Marine Programs department. Though HY-130 type steel has been employed in the past for other marine construction, this marked the first attempt by the Navy to utilize it as the principal material of a relatively lightweight structure, says Walter Wohleking, manager of Marine Programs.

In addition to the design and construction of the aft strut, the $1.2-million development contract also called for Grumman to establish and document the fabrication and welding procedures for use by the Navy's hydrofoil contractors in the manufacture of future HY-130 strut and foil systems.

During construction, the Structural Test department employed traditional shipbuilding practices that involve a minimum of fixed and costly tooling. Temporary supports were used as the fabrication progressed. Close coordination between the design and manufacturing of the strut and yoke was achieved by using controlled heat during the welding process.

The new aft strut is two feet longer and four times as stiff as the former HY-80 strut. It should provide much improved hydrodynamic turning characteristics at foil-borne speeds in excess of 40 knots, according to Dan Postupack, Grumman's AGEH aft strut project manager.

Under a prior Navy contract, Grumman had designed (but never built) a complete HY-130 strut and foil system for the Navy's PHM, a 230-ton missile-carrying hydrofoil being developed for use by both the U.S. Navy and NATO nations. "Elements of that design approach were applied to the AGEH aft-strut ship development," says Wohleking, and are being considered for use on future hydrofoil ships, such as the Hydrofoil Offshore Combatant (HOC), the next generation large hydrofoil escort ship currently under consideration by the Navy.

"The ease of fabrication and success in maintaining tolerances experienced during this program has ratified an earlier decision by the company to utilize HY-130 in the struts of Grumman's Flagstaff II, an 85-ton hydrofoil patrol boat that is being marketed internationally," states Wohleking, "It also provides the Navy with a benchmark material for future hydrofoils."

Bound for Puget Sound. Shipping personnel prepare the HY-130 steel strut and foil built in Plant 5 Product Development Center for delivery to the Navy's Hydrofoil Special Trials Unit. At the Puget Sound Naval Shipyard, the strut and foil will be installed on the world's largest hydrofoil ship, the AGEH Plainview. (Photo by Bob Settles)

Suggestion box

Do you have any thoughts on how GRUMMAN PLANE NEWS can serve you better? Are we writing about the things that affect you most ... or are there some areas you'd like to hear about that we're not covering? Think about it ... we're open to suggestions. Write to Brian Masterson, Plant 5. You don't have to include your name but it would help if we have to do any follow-up for more information.

Training Systems on the move

Training Systems, besides being selected as the winner in two competitions, is on the move again ... but this time it's to a new physical location on the Grumman scene. During the week of April 12, all of Training Systems Department (except its manufacturing section) located at Plant 43 will shift operations to Plant 36 in Garden City.

Starting May 1, all of Training Systems now located at Plant 47 (MacArthur Airport), which includes Trainer Proposals, will be moving its quarters also, and about June 1, the manufacturing portion of Training Systems will leave Plant 43 at Great River for new quarters. Eventually, the major portion of Training Systems Department will be located at Plant 36, except for some classroom training functions that will be situated at Plant 39 (across from Plant 5 on Hicksville Road), while the A-6E weapons system trainer will be housed in Plant 31 (just west of Plant 30).

GRUMMAN plane news

Published twice a month for the employees of Grumman Aerospace Corporation, Bethpage, N.Y. 11714, as a function of the Public Affairs Dept., Vice President J. B. Rettaliata, director.

Manager, Internal Communications
Brian Masterson

Managing Editor
James B. Conaway

Associate Editors
Kathy Housley
Charles McGowran

Editorial Assistant
Laura Solla

Art Editor
Ted Kole

Telephone
Plane News: 3293
Plane News from outside line: 516-575-3293

Request from Medical... info please

Although it doesn't happen often, there are times at Grumman when people need medical help ... and in a hurry. The Grumman Medical Department can provide immediate assistance certainly, but sometimes emergency treatment must be continued at a hospital. When that becomes necessary—especially if the patient has lost consciousness—it's extremely helpful to have his or her family doctor and next-of-kin listed with the Medical Department.

In that way, says Medical Director Dr. Bob Jessup, additional medical data can be obtained that could assist both in diagnosing a patient's problem and in prescribing the proper treatment, and keeping the family informed as well.

Since we do live in a highly mobile society and because there often are changes in marital status, Dr. Jessup suggests that all Grummanites fill in the accompanying blank so that the information can be kept on file in the Medical Department. Your prompt response will help the men and women in Medical do their job better—and that could help you, too.

Emergency information

Name ..... Perm. No .....

Dept. ..... Plant .....

Next-of-kin. ..... Telephone .....

Family physician .....

Town ..... Telephone .....

Please return to:
Medical Department
Plant 28

Seaman uses flip side to reap bond bonanza

The month of February was worth over $15,000 in U.S. Savings Bonds to a group of Grumman employees—that's how much money was awarded to last month's Project Sterling suggestion winners. The associated savings of their implemented ideas is tabulated at $1,829,421; close to two million dollars saved by Grumman.

The best suggestions are sometimes the least complicated which was best demonstrated by last month's top award winner, Cliff Seaman, of the Transportation Department, Plant 1. Cliff noticed that the 15 ft. x 16 ft. pallets used to deliver F-14 inlets were not being reused. The shipping costs were too great, said Rohr, the manufacturer, and because of this, only the metal mounting plates were brought back for reuse. Cliff's idea was to flip the skids over (plates and all) and insert them into a larger pallet that *is* returned to the manufacturer. The idea brought back the previously used skids at practically zero cost, immediately ready for the next shipment.

That suggestion is worth an estimated $87,000 to Grumman in the first year alone, and a solid $2400 to Cliff. The bond money is his second suggestion prize and will be used the same way as his first $250. "I'm going to save it for awhile," says Cliff with a smile. He plans to keep on thinking about future suggestions, although he feels, "It's harder in transportation because it's a lot different here than in production." Even so, Cliff's the first to admit, "It's worth thinking about for that much money."

Payoff apparent

February's other top winner has cashed in for the sixth time on Project Sterling. Frank J. Santagata of Plant 3 has received bonds ranging in value from $50 to $200, but last month's award of $1,375 is his biggest yet. His idea was to institute the use of "Sonnet" type cutting tools (with replaceable cutting edges) instead of the solid design cutters that were being used on the F-14 project. Frank pointed out that the solid cutters could be used only twice before being scrapped; by using replaceable tips instead, the waiting time for useable tools could be reduced from 14-16 weeks to three days. The four cutting edges can be replaced for $80, as compared to approximately $200 for the solid tools, which makes for additional savings.

Frank says his main interest was, "in keeping the machines running and the money coming in for Grumman." His idea amounts to an estimated $21,936 in the first year alone. The bond money that came in for Frank is going towards the construction of his upstate retirement home. Santagata may soon have even more cash to build with because he has another suggestion being processed by the Motivational Programs Office.

Other award winners are:

$600 — James Knipe/Mandel Mauricio, Support, Pl. 6.

$550 — Richard Falk/Steven Falk, both of Elect. Installation, Pl. 6; Ronald Fagan, Flt. Avionics, Pl. 7.

$500 — Thomas Connor/Edward Zbikowski, Major Assy., Pl. 3; Daniel McKeown, Elect. Test; Robert Zinkiewicz/Bruce Nason, both of Flt. Avionics, all of Pl. 8.

$475 — Frederick Caretto, Insp. Mech., Pl. 1.

$450 — William Boehmer, Machine Shop, Pl. 56.

$400 — Albert Boehm/Clifford Rudolph, both of Fluids, Pl. 6; Sal Baiamonte/Frank Zahra, both of Structures, Pl. 7; Louis Willen, Elect. Warfare Proj. Procurement, Pl. 40.

$300 — Edward Kavanaugh, Final Assy., Pl. 3; Robert Hayhurst, Mfg. Insp. Elect., and Salvatore Grillo, Structures, both of Pl. 6; Arthur Stone, Gen. Subcontr., Pl. 30 and Charles Dietz, Antenna-Radomes, Pl. 25.

$225 — John Peterson, Fluids, Pl. 6.

$200 — Martin Liebman, PPO—Space, Pl. 5; Frank Posillico, Structures; Joseph Taglieri, Structures, and Stanley Orlasky, Mfg. Insp. Mech.; Norace Sacher, Mfg. Insp. Mech., and Robert Bishop, Fluids; Allen Yeager/Harry Berg, both of Elect. Install., all of Pl. 6.

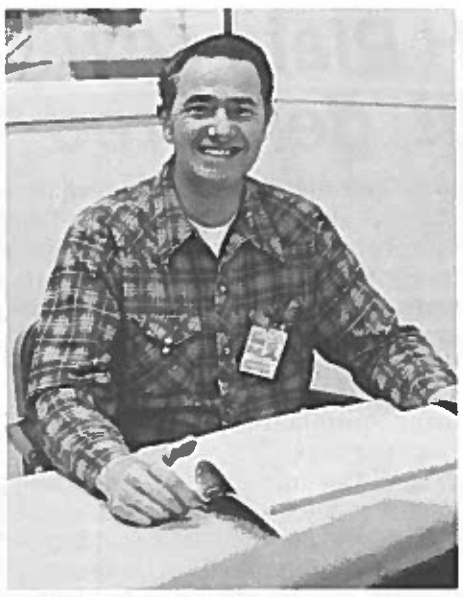
$175 — Mario Ruggiano, Conv. Mach., Pl. 3; Jerald Ernst, Elect. Box Pan. & Drawer. Fab.; Bert Nessel, Ep. Circ. & Mod. Fab., both of Pl. 43.

$150 — Kenneth Wendell, Equip. Lines, Pl. 1; John Knespler/Christopher Rizzuto, Conv. Mach, both of Pl. 3; Alvin Perlmutter, P/S Digital Engg., Pl. 4; James Connelli/Frank White, both of Fluids; Leonard Dimino; Frank Posillico, both of Structures, all of Pl. 6; Richard Keller, Flt. Avionics, Pl. 8.

$125 — Daniel Gray, Mach. Shop, Pl. 2; James Kydd, Parts Paint, Pl. 3; Nicholas Maniscalco, Elect. Install.; Harry Berg, Avionics; Leonard Trifaro, Structures, all of Pl. 6; Alexander Stefanovich, Structures, Pl. 7.

$100 — Eugene Tiefenworth, Escape, Surv. Armt. Pyro., Pl. 1; Theo Monahos, P/S Elect. Engg.; James Seymour, Steel Parts Assy., both of Pl. 2; Richard Longwell/Michael Montagano, both of Major Assy., Pl. 3; Thomas Butler, Structures; Joseph Casal, Engines; Albert Boehm/Clifford Rudolph, Fluids, all of Pl. 6; Andrew Gercke, Elect. Box & Pan. Fab., Pl. 44.

$75 — Ralph Warren/Martinus VanEssendelft, both of Structures and Stanley Orlasky, Mfg. Insp. Mech. all three-time winners of $75 bond; Ewald Barty, Elect. Install.; Edward Davis, Gov't. Mat'l. Control, all of Pl. 6; Vitold Ludkowski, Rel. & Control, Pl. 35; Michael Carfora, Elect. Final Assy., Pl. 43.



$miling winner. Cliff Seaman of the Transportation Department in Plant 1 is probably thinking about the $2,400 in U.S. Savings Bonds he won last month. He was February's top Project Sterling award winner.

Hydrofoils

(continued from page 4)

sign, and development estimated at $2.5 billion. The Navy craft will be able to "fly" at 45 knots, and is labeled the "escort of the future" because of its potential as a carrier escort. A hydrofoil craft's stability enables it to carry personnel and payload as efficiently as a conventional boat three times its size, so it is possible that the HOC will be employed by the Navy as a standard boat, replacing destroyers also as an antisubmarine vessel.

For Ray Wright, the HOC means the development of a new set of foils, and he and the hydrodynamic team are working on them now. "That program is interesting," says Wright, "because we're moving into new configurations. The requirements are more stringent, so we're trying to get better performance; and from that standpoint, it's a challenge."

Meeting the challenge is what Ray Wright and the hydrodynamic research team have been doing since its beginning—from the first experimental boat to the proposed 1,200 ton (or greater) HOC. The field is limited and relatively new, but Ray still insists the job, even though very demanding, is very satisfying. As he explains, "Grumman and Boeing are the only two companies in the country today building hydrofoil craft, and we've been in the business longer. So, you could say we're in a class by ourselves. I enjoy very much the fact that we're trailblazing. I think everyone concerned with hydrofoils here has sensed the same thing."

The big switch — first, change in numbers

The Grumman telephone system has been switching digits for the past few months. Thousands of phone numbers beginning with the numerals 9 or 1 have been changed, and there are still more to go. The purpose for the big switch: in December the the New York Telephone Company will take over Grumman switching operations from their new central office in Plainview.

Al Zoitke, manager of Grumman Telephone Services, explained that the telephone company is taking over the job because it will save money for Grumman as well as provide the most advanced telephone system currently offered. The planned cutover from the present internal system to the outside service is the second largest in NYTC history, and although the task is a big one, Zoitke hopes to phase the necessary changes over the next few months.

All employees who have had their telephone numbers changed are asked to fill out a "change of number" card available at Employee Services and submit them to the Chief Operator, Plant 2, so the directory can be modified. You won't have to do it again for a long while because, according to Zoitke, "The numbers that are changed now are going to be the same for at least the next 20 years."

More on Training Systems wins ...

(Continued from page 3)

realistic feel of movements that result from their own operations. Some trainers can actually allow two pilots to simulate air-to-air combat.

In the case of the SCEPTR, sensory duplication of actual flight is not the aim. It is a way of keeping flight-tested pilots mentally sharp in emergency procedures when not with their readiness squadrons and are far from conventional full-sized trainers. SCEPTR can be used to teach but also serves to measure proficiency in completing flight or other procedures correctly. Another aspect is the suitcase-sized trainer's low-cost operation and the fact that it can be used in a variety of situations.

Some indication of the mounting interest in trainers can be gauged by the fact that negotiations for 12 more SCEPTRs are currently underway for their use with four configurations of non-Grumman helicopters. Part of that contract would call for 100 more versions of the simulators that act like and look like half-sized helicopter crew stations. At around $30,000 each, that's another "first" Training Systems is pulling for.

Director of group services at Strang, Jerri Goodstone, shows Grummanite Jim Conaway some of the health information available at the clinic.

A lab assistant attaches leads from electrocardiogram machine for a painless test for heart disease that takes less than five minutes to complete.

Technician at Strang Clinic prepares patient for mamography, a technique used in diagnosing early breast cancer. (Photos by Bob Settles)

Offer Strang medical exam at reduced rate

Recently, I underwent the complete battery of medical tests in the comprehensive examination given at the Preventive Medicine Institute: Strang Clinic on 34th Street in Manhattan. Like many people, I hadn't looked forward to the visit. And like some, I had previously undergone some of the exams elsewhere and found the experience unpleasant enough to vow never to repeat it. That was not the case with Strang Clinic. I walked out of the building impressed by their efficiency and a convert to their method.

Jim Conaway

Life is for living, we're all agreed. What most people don't seem to pay much attention to are the ways of living life longer. One way in particular is preventive medicine, and more specifically—The Preventive Medicine Institute: Strang Clinic. "An ounce of prevention is worth a pound of cure" is so familiar that it's generally ignored. At PMI-Strang, it's not only the motto and symbol (represented by a scale and weights on its stationery) but a scientific creed borne out continually by results.

As a courtesy, Strang Clinic is offering the two series of exams to Grummanites located at Long Island Plants for reduced prices. The "Comprehensive Health Examination" administered to people over 40 years of age has been reduced to $100 for employees and their spouses; and the "Health Review" is offered *only* to those under 40 for $60. Those in the younger category who prefer the comprehensive exam will be accepted at the $100 reduced fee for that group of tests.

How Strang Works

Everything at Strang Clinic is geared toward uncovering the "detectables"—16 diseases that lend themselves to being detected easily in their early stages with correct equipment—by utilizing all the techniques of uncovering cancer, plus others. Today, according to Strang Clinic, science is uncertain of many causes of cancer, but many risk factors are well known. The kinds of cancer tested for are: kidney and bladder, breast, colon, larynx, lung, mouth and throat, skin, and stomach. Of equal concern are indications of alcoholism, diabetes, glaucoma, heart disease, hypertension (high blood pressure), stroke, and venereal disease.

On the basis of test results, Strang sends a confidential report of actual findings along with an analysis of risk factors to each patient and his or her personal physician, even if the tests prove negative. Strang's goals are not only to make tests. The clinic tries to educate patients and communities to health hazards; have more people take annual exams; strive for better techniques that will enable diseases to be detected at even earlier stages than can be accomplished now; and educate nurses and paraprofessionals to take on greater responsibilities in a way that will release physicians to concentrate on areas that only a doctor's training will allow.

Dr. Daniel Miller, director of the Strang Clinic says, "People come in with conditions that are not serious, but they would not have been made aware of them without such tests. Conditions such as high cholesterol or hypertension could become quite serious if they are not dealt with early."

The Strang Clinic is geared primarily for testing (although it is involved in research studies and other activities) and doesn't have to fit its preventive medicine tests in between other functions as in a hospital. All the testing is concentrated in one area on two floors, in a logical sequence, and the whole procedure is smooth and personal.

Any slight apprehension I had, based on past inconveniences and discomfiture during testing at other places, were erased early during the visit. There's no guarantee that will happen to everyone, but if it is at all possible for a person to become relaxed with a family doctor, it is equally possible at Strang.

Grummanite results

From August through December 1974, Strang conducted a special confidential study of Grummanites enrolled in its program of annual physical checkups. Like all of the findings, none are released on specific patients except to the personal doctors they designate—and even then only with each patient's signed approval. But I was able to get overall results culled by Strang's computer.

Out of 236 presumably healthy patients, 95 (or 40 percent) were found to have hypertension, 14 had cancer (seven kinds among them), and 77 had other ailments. All of the cases were previously unknown to the Grummanites involved, but five more cancerous conditions (making 19 in all) were known to the individuals before they began their further exams at Strang. In many instances, a casual checkup at a doctor's office would not have revealed the symptoms because most private doctors lack the full complement of a testing center's specialized equipment. Complaints of discomfort are usually necessary for family doctors to become suspicious enough to send patients to outside labs.

In all, 186 Grummanites discovered conditions that they did not know they had. All are now receiving the benefits of medical care and progressing far better than would have been possible if they had not signed up for the exams. I was not one of the Grummanites in the study or one found to have a condition demanding imminent medical care. Overweight, I was told to lose 25 pounds under the guidance of my own doctor. A smoker of one pack of cigarettes a day, I was advised strongly to stop altogether—considering my family history of two close relatives' deaths from cancer within the last 10 years. Both were heavy smokers.

Every Wednesday morning is "Grumman Day" at PMI-Strang Clinic. Grummanites and retirees who are interested in knowing the state of their health should call Strang directly (212) 683-1000. For a first visit, ask for the "initial" appointment section. Those who have been to Strang before ask for the "annual" appointment section, and all callers must remember to mention their Grumman affiliation to gain the benefits of the discounts. It is not necessary to tell anyone at Grumman in advance of your appointment except your supervisor.

Wives or husbands who wish to take the exams with their spouses are also allowed the reduced rates and will be accommodated the courtesy of Grumman-provided transportation from Plant 18 at 7 a.m. on the dates assigned. But the one call to Strang is important because appointments are required for transportation and for acceptance into the clinic. The $100 or $600 fee is due at Strang on registration.

These basic examinations, because they are preventive in nature, are not covered by the Grumman Insurance Program, although if further testing becomes necessary additional ones may be. The morning at Strang must be considered a paid absence, vacation time, or absence

(Continued on page 12)

They're joining quarter-century club at Grumman

J.P. Thornton

R. D. Piaseczny

D.L. Sweezy

C.L. Johnson

W.F. Myers

L. Gagliano

L.M. Canonico

W. Abramoske

W.H. Horton

M.J. Labella

F. Budzenski

F. Fick

E.B. Moebes

R. DePuy

J. Famiglietti

N.H. Rehm

M. Arroyo

L.I. Smith

W.J. Golden

R.T. Birck

A.F. Kaufmann

K. Bruer

O.J. Healy

W.E. Biggs

H.A. Wahl

J.F. Osborne Jr.

V. Buffa

R.W. Haas

J.J. Hospodar

A. ValDeTara

M.Kowalchik

A.J. Milauckas

F. Bonello

S. Tedesco

F. Barbato

J. Visconti

C.E. Swanson

W.A. Matuza

W.M. Fischer

H.B. Hopkins

H.R. Mead

W.H. Mueller

W.B. Hatch

J.E. Stigers

W.J. Moloney

H. Wilson

S.H. Stenard

H. Stokey

G.J. Ballard

J.J. Morrison

L. Murphy

service milestones

40

William Kutner, Power Plt. Des. (25)

35

Edward E. Pabst, Structural Des. (1)
Robert E. Pook, Parts Paint (2)
Anthony B. Colby, Prototype (2)
Roland M. Corwin, Flt. Trans. (4)
William D. Hannigan, Support (6)
Stanley Pienkoski, Ctr. Sect-Sub. Assy. (27)
Vincent C. Fasanella, ODD Stf. (28)
John C. Otto, Mach. Parts/Material (30)
Charles W. Dunn, Sm. Bus. & Ind. Asst. (30)
Roy W. Wood, Des. Engg.—Mgmt. & Stf. (35)
Wilbur G. Klos, Proj. Plng. (40)

30

James J. Kalman, Major Assy. (1)
Joseph F. Aquilino, Prod. Ctl-Parts Cntl. (1)
Dominick E. Pesce, Controls & Mechanisms (1)
Elliott H. Seagraves, Small Parts Fab. (2)
Theodore F. Karlecke, Propulsion Test (2)
Pat J. Troise, Insp-Mech. (2)
Howard J. Baldwin, Alodine (3)
Osgan Kassapian, Final Assy. Structure (4)
Beryl A. White, Proj. Serv. Secy. (5)
Calvin C. Conrad, Ind. Engg-Crewload (6)
Francis J. Turek, Tech. Ops. (77)
Robert L. Conrad, Mfg. Tech. Prod. Serv. (87)

25

Jack P. Thornton, Final Assy. (1)
Raymond D. Piaseczny, Final Assy. (1)
David L. Sweezy, Maint-Rearrangement (1)
Charles L. Johnson, Maint-Rearrangement (1)
Wentworth F. Myers, Structural Analy. (1)
Laurence Gagliano, Insp-Mech. (1)
Lawrence M. Canonico, Prog. Mgmt.—F-14A (1)
Walter Abramoske, Press (2)

E.S. Teleweck

L.L. Bauser

C.F. Becker

S.J. Mias

E.A. Morris

F.J. Parise

V.J. Quinn

William H. Horton, Cadmium Plate (2)
Everett Loeffler, Pride Line (2)
Michael J. Labella, Controls (2)
Frank Budzenski, Controls (2)
Francis Fick, Tanks & Ducts (2)
Dominick L. Quaresimo, Clean & Descaling (2)
Frank J. Haggerty Sr., Prod. Rel. & Analy. (2)
Edward B. Moebes, Mods/Methods Status (2)
William D. Rowehl, Maint-Facl. Equip. & Gen. (2)
Russell DePuy, QC Inspect. Mgmt. (2)
Joseph Famiglietti, Wing Sub-Assy. (3)
Frederick J. Briggs, Honeycomb Bonding (3)
Norwin H. Rehm, Prod. Plt.—Mgmt. & Stf. (3)
Manuel Arroyo, Trans.-Ops. (3)
Lawrence I. Smith, Final Assy. Structure (4)
William J. Golden, Prod. Ctl-Parts Cntl. (4)
Joel E. Stigers, Ops. Qual. Surv/Sys. & Proc. (5)
Richard T. Birck, Support Equip. Prod. (5)
Andrew F. Kaufmann, Proposal Ops. (5)
Kenneth Bruer, Maint-Rearrangement (6)
Owen J. Healy, Fluids (6)
John F. Maher, Ordnance (6)
Fortunato P. Vitello, Structures (6)
William E. Biggs, Repair Control (6)
Henry A. Wahl, Repair Control (6)
John F. Osborne Jr., Structural Engg. (6)
Vito Buffa, Mfg. Insp. Elect. (6)
Raymond W. Haas, Rec. Insp. Hydrfuel Tst. Lab. (6)
John J. Hospodar, Structures (7)
John J. Flatley, QC Qual. Engg. (10)
Angelo ValDeTara, Chem. Engg. & Process Stand. (12)
Michael Kowalchik, Power Plt. Des. (15)
Anthony J. Milauckas, Crew Sys. (15)
Frederick Bonello, Templates (16)
Salvatore Tedesco, B/P Warehouses (17)
Frank Barbato, Trans-Ops. (20)
Joseph Visconti, Structural Analy. (25)
Carl E. Swanson, Prog. Mgmt. A-6 (25)
Walter A. Matuza, Major Assy. (27)
William M. Fischer, Ctr. Sect-Sub Assy. (27)
Harold B. Hopkins, Fluids Dynamics (35)
Harold R. Mead, Aerophysics (35)
William H. Mueller, Computer Applications (35)
William B. Hatch, Ops. Qual. Surv/Sys. & Proc. (35)
William J. Moloney, Upholstery (36)
Henley Wilson, Wing Sub-Assy. (36)
Seaton H. Stenard, Sub-Assy. (36)
Harry Stokey, Ctr-Sect-Major & Subs. (36)
George J. Ballard, Training & Dev. (39)
Joseph J. Morrison, Config. Data Mgmt. (40)
Leonard Murphy, Ind. Engg-Sched. & Status (43)
Edward S. Teleweck, Elect. Box Pan. & Draw. Fab. (43)
Louis L. Bauser, Elect. Box Pan. & Draw. Fab. (43)
Charles F. Becker, Prod. Rel. & Analy. (43)
Stanley J. Mias, Methods Engg. A/C (43)
Edward A. Morris, Req. Planning (43)
Felix J. Parise, Kit Disbursement (44)
Hans R. Stocker, Mfg. Engg. (66)
Vincent J. Quinn, Front Section (77)

20

Arthur R. Andersen, Prototype (1)
Daniel J. Aquilino, Stockrooms (1)
Anthony Varvaro, Crew Sys. (1)
Ira D. Morgan, CETS Training—Iran (1)
James McDonagh, Proj. Proposals (2)
Charles A. Prudhom, Assy. Tool. & Hand. Equip. (2)
John B. Nickerson, Assy. Tool. & Hand. Equip. (2)
Armano A. Jalbert, Major Assy. (3)
Louis Attina, Wing Sub-Assy. (3)
Henry Schillo, Mach. Ops-Tech. Serv. (3)
Ronald W. Boyce, Stockrooms (3)
George A. Mannarino, Insp-Mech. (3)
Robert C. Nolan, Final Assy. Struct. (4)
Edward E. Grams, Flt. Ops/Gulf O&R (4)
Robert D. Sison, Equip. Tech. Mgmt. (4)
Arthur August, dep. div., Adv. Sys. Tech. (5)
Frederick J. Dolan, Ops. Analy. & Plng. Research (5)
Alfred J. Zaleski, Ops. Analy. & Plng. Research (5)
Eugene J. Burbol, Structures (6)
Patrick A. Hughes, Plant Stores (6)
Robert A. Carlstrom, Sys. Des. (7)
Arthur I. Williams, Mass. Prop. Consol. & Cntrl. (7)
George D. Warnken, Airport Ops. (7)
Julius Keller, Supply Ops. Proj. Mgmt. (15)
Robert E. Bischoff, Environ. Cntrl. Des. (15)
Julio J. Tucci, Tech. Dir. (15)
Vincent Palmeri, Equip. Lines (25)
Richard H. Palmer, Drafting (25)
Frank T. Peterson, Corp. Plng. Cntrl. & Budg. (25)
Louis A. Lionetti, Tech. Req. (30)
Joseph J. Popolo, Dynamics (35)
John D. Helgesen, Research Mgmt. & Stf. (35)
Robert E. Melnik, Aerophysics (35)
Louis J. Bocchino, Router & Shear (37)
Salvatore Pantano, Mech. Engg/Des. (43)
William J. Slade, Elect. Final Assy. (43)
Taras Wakulinski, Mfg. Supervision (43)
George J. Elias, Mfg. Technology (43)
Edward J. Stastny, Fac. Admin. (44)
James H. Becker, P/S Digital Engg. (47)
Robert J. Valente, Mgmt. & Control (58)
William R. Schlosser, Base Supply Office (60)
Thomas A. Lehecka, Inspect/QC (77)
Harry J. Deneau Jr., Avionics (77)
Robert F. D'Errico, Seller Surveillance (87)
Charles A. Steinbrenner, Flt. Test (88)
John Klimek, QC Supplier (89)

15

Cynthia E. Gunst, Maint-Facl. (1)
William G. Schultz, Field Serv. Mgt. (1)
Rolf T. Sommer, Pride Line (2)
Daniel F. Coyle, Maint-Rearrangement (2)
Nicholas P. Terrone, Conv. Mach. (3)
James W. Pope, Wing Final Assy. (3)
Eugene Ulmer, Maint-Facl. (3)
Frederick A. Wengler, Ind. Engg. (4)
Louis Stauch Jr., Conv. Mach. (5)
Donald J. Rogers, Ops. Analy. & Plng. Research (5)
Dorothy G. Frankenbach, Proposal Ops. (5)
Ray Mur, Secretary & General Counsel, GAC (5)
Charles V. Rau, Customer Req. (5)
Charles P. Iwanski, Corp. Plng. (5)
Bruce R. Bensen, Maint-Rearrangement (6)
Allen E. Cheshire, Maint-Rearrangement (6)
Paul T. Hilenski, Maint-Facl. (6)
Henry J. Lenz, Fluids (6)
Philip H. Kurz Jr., Prod. Deputy & Statn. Foreman (6)
Ralph L. Armbrust, Ship & Spares Consolid. (6)
Edmund G. Charland Jr., Instrum. Sys. Des. (7)
William H. McCluskey, Flt. Ops. (7)
Robert L. Finch, Flt. Dev. Ops. (7)
Bobby D. Ruth, Flt. Dev. Ops. (7)
Frederick A. Hempfling, Elect. Test (8)
Ronald A. Broome, Maint-Rearrangement (12)
George Duce, Maint-Rearrangement (12)
Charles A. Unger, Proto. Elect. Dev. (14)
Martin G. O'Connor, Sys. Engg. Proj. Engg. (15)
Alfred M. Squicciarini, Central Shipping (17)
Robert V. Maple, Offsite Control (21)
Frederick H. Steffens, Maint-Facl. (25)
Burton Swerdling, Thermodynamic Sys. (25)
Henry L. Peters, Invent. Plng. & Analy. (30)
William T. Brennan, Seller Des. Equip. (30)
Nicholas F. Pietromonaco, Tech. Writing (34)
Harold Wexler, Sys. Engg. Proj. Engg. (35)
Robert J. Davis, Tech. Serv. (40)
John L. Klinger, Resources Cntl. (40)
Carle L. Giannelli, Digital Engg. (40)
Joseph J. Smith, Training Sys. (43)
Patrick J. Lindstrom, Final Assy. Training Sys. (43)
Jerald P. Ernst, Elect. Box Pan. & Draw. Fab. (43)
Duncan McKellar, Insp. Elect. (43)
Patrick J. Francis Jr., Invent. Mgt. (44)
Richard B. Mroz, Supp. Equip. Serv. (80)
Ralph T. Morelli, ILS Instructors (81)
Richard P. Corney, Tech. Writing (88)

Looking back across the years

Twenty-five years ago, Plane News carried a proud headline on the first page saying "Panther Stars On First Jetborne Photo Job For U.S. Navy In Korea."

A Panther squadron, VC-61, flew the Navy's first jetborne combat photo mission from the carrier Princeton to the Chosin reservoir in December to aid in a Marine evacuation. The pilots commented on the Panther's excellent stability during the photo mission, its better visibility for both the camera and the pilot, and its range and speed.

The Albatross popped into the news too. When Maj. Joseph Pelter, wing communications officer of the 86th Fighter Bomber Wing, parachuted into the Mediterranean after the engine of his Thunderjet failed an Albatross was dispatched from Wheelus field, Tripoli, 200 miles away. Despite heavy nine-foot swells and oncoming darkness, the rescue plane landed near the spot where Pelter was huddled on a tiny life raft and hauled him to safety.

Avid fan. Since he became a Grummanite in 1949, Dominic 'Skip' Graziose (R) has been an active participant in the GAA membership drive. When he retired last fall, he presented Bob Benn, head of GAA, with the 26 membership cards he'd collected over the 26-year span. Benn, in turn, gave Skip a gold-plated life-time GAA membership which is given to all employees when they retire.

Spring training camp opens for softball varsity players

While March teases everyone with warm sunny days interspersed with snowy days, the men and women's varsity softball coaches announced that, despite the weather, spring has indeed arrived. Tryouts for both squads will begin next week.

According to men's varsity coach Jack Keane, all positions are open on the Intruders roster. Tryouts will be held at the Plant 3 field starting at 4 p.m. on the following days: Tuesdays, April 6, 13, 20; and Thursdays, April 8, 15, 22. You can contact Keane on Ext. 87220.

Last year's most valuable player on the women's varsity, Debbie Bianco, will be returning to the squad this year, says new coach Joe Nieves. But there are still many positions to be filled before the team begins play in the L.I. Women's Industrial Softball league. There will be a meeting for all women interested in trying out for the team on Thursday, April 1, in the Plant 15 buffeteria at 4:45 p.m. Tryouts will be held every Monday and Thursday evening in April on the Plant 3 field starting at 4:45 p.m. For additional information, call Nieves on Ext. 7806 or 86069.

Second lunch. The Food Service's second 'Liberty Luncheon' on March 16 featured a feast for the eyes as well as the palate, because the Food Services personnel were all appropriately dressed in red, white, and blue to serve the New England boiled dinner. Pictured here (L to R) are: Tom Thompson, Maggie Cesare, Ed Fritzer, Bob Koch, Anna Costello, and Antoinette Lindstrom. (Photo by Marie Trimborn)

Axelrod pushing back clock as he preps for Olympic trials

To Albert "Albie" Axelrod, fencing is a hobby. "I do it for fun and relaxation. It supplies a release from everyday problems. And, at the same time, I maintain my physical condition."

It's not unusual for a person to pursue a hobby for 41 years as Axelrod has with fencing. But what is surprising is that since Albie became national collegiate fencing champion over 30 years ago, he has been one of the top ranked fencers in the United States.

At Rome in 1960, Albie Axelrod became one of only two American fencers ever to earn an Olympic medal when he won the silver medal in individual foil competition.

Many consider Axelrod, an electrical engineer in Military Space in Plant 25, to be the greatest American fencer ever. His achievements with the foil speak for themselves. He has been in five Olympics since 1952 and is one of only two Americans ever to win an Olympic medal. He has won four silver medals in four consecutive Pan-American Games, three golds in the Maccabiah Games in Israel, and has been United States champion four times, the last as recently as 1970.

Axelrod currently ranks fifth in the country and sixth on the Olympic squad. The top four fencers will represent the U.S.A. this summer in the Olympic Games in Montreal. At the Nationals in June, Albie has aspirations of placing high enough to once again represent the U.S. in fencing at Montreal.

That means training three to four nights a week at a fencing academy in New York City and postponing any ski trips he had planned for this winter. Prior to the 1972 Olympics, he dislocated his shoulder skiing and missed his first Games since 1952.

The strategy of fencing is much like chess, says Axelrod. "You probe; you work with an opponent. You make feints trying to find out what he can do...how he responds. And, when you've discovered how he responds you must be very careful, because you still haven't really found out how to hit him. You see, there is always the chance that he's simply responding this way to draw you into his own attack.

"If you feel you are right you gamble and make an attack. If your strategy is correct, you hit. If not you're parried and under an immediate counterattack—which is so fast you have no time to think. You fence reflexively."

How does Axelrod, at 55, maintain the reflexes to duel with fencers in their twenties? "Though my reflexes are not as good as the majority of my opponents—my technique is more efficient."

Axelrod's skills were sharpened at a WPA Settlement House during the depression. His method of fencing is based on the natural extension of body movements. For instance: "The classic lesson given to a fencing student is to kick off from your heel when lunging," says Axelrod, "but in actual matches, most fencers instinctively roll off the ball of their foot as when walking."

"Classical parries are made with lateral arm movements which are purely defensive. Because I counterattack before I parry, and incorporate the defensive action into the return action, the opponent is surprised by its apparent speed." And, according to Axelrod, so long as his opponents analyze his movements from a classical frame of reference, they will continue to confuse efficiency with speed.

So, while most of his contemporaries have long since turned their energies toward golf, Albie Axelrod continues to excel in his favorite pasttime of fencing.

Slate bridge clinic

Bridge clinic for beginners, sponsored by GAA, will be wrapping up next Thursday, April 1. The next series will begin the following Thursday, April 8, for all intermediate players.

The clinic is open to all Grummanites and their family members who wish to correct, refine, and improve their basic techniques. Hugh Montague, president of the Grumman Duplicate Bridge Club, is conducting the seminars.

The eight-week session will be held every Thursday evening in the Plant 30 cafeteria at 5:30 p.m. For additional information, contact Montague on Ext. 3863.

Milledgeville champs. Tom Lahey, assistant manager of Plant 66 in Milledgeville, Georgia, congratulates winners of the fall '76 Snakefighters golf league (L to R): Jim Hicks, first place–Flight A and team champion; Jim Lagerstedt, second place team; Joe Christian, second place–Flight A; Dyan Reugh, second place team; Bob Mellor, team champ; Jim Dunn, second place–Flight B; and Ken Meyer, first place–Flight B.

Grumman keglers team to beat in L.I. Industrial tournament

It didn't take long for the men's varsity bowling team to decide on the best way to celebrate the 35th anniversary of the L.I. Industrial Invitation Bowling tourney. Though *Plane News* went to press before the third round was played last Saturday at Mid Isle Lanes in Hempstead, the five Grumman keglers had already begun their drive to sweep all the honors in the four-night event.

After two rounds, Grumman led the 16 industrial teams in total pinfall with 5,689—that's an average of 189 per kegler. A.I.L. was residing in second place with 5,532; and Nassau County Employees were 231 pins behind the leaders with 5,458.

But the varsity squad members weren't just content with first-place residency. After two rounds, they also sported the highest and second highest team game scores, 1,040 and 1,004. They were also holding on to the top two slots in the high team series contest with 2,847, and 2,842.

Joe Glasser, on the second evening on the alleys, punished the pins for the tourney's highest game thus far with 257. In the race for outstanding bowler trophy, the top two in the running are Grummanites. By averaging 199.6, Glasser leads all 80 keglers with a total pinfall of 1,198 for the six-game series, and Barry Kasin is right behind him averaging 197 a game for a total of 1,182.

That isn't all the trophies that the keglers have been eyeing in the annual bowling classic that is sponsored by Grumman. Glasser, Kasin, Tom O'Connor, Fred Smith, and Grover Hart have also been chopping the most pins over their established team average than any other squad, thus placing Grumman on top in the race for the Jake Swirbul Incentive trophy.

Whether or not the Grumman team can hold on to the many leads they have been building the first two weeks will be determined this Saturday evening at 8 on the Mid Isle Lanes in Hempstead.

Win some, lose some

In recent showdowns in the L.I. Industrial league, Grumman has been a winner and a loser in the same match. On March 11, the "D's" handed the "C's" their fifth loss of the season by outscoring their fellow workers, 1,062 to 989. It was a total team effort on the "D's" part with Al Berka firing 275, Dave Rice shooting 272, Jim Dinan scoring 264, and Greg Criscione contributing 251. Gordon Woodruff and Sy Cohen led the "C" team by firing 252 and 251, respectively. The "D" squad now stands at 6-2.

In an earlier match in the sharpshooter division, the "C's", led by Woodruff with 257, defeated Sperry, 898 to 864. Thus far this season, Woodrulff's team has a record of 4-5. In the marksman division, the Grumman "E's" dropped their ninth contest of the season by succumbing to the "B's", 928 to 958. Marcello Longa led the winner's assault with 254. The "E's" are still searching for their third win of the season.

Earlier, the "B's" defeated Center Island R&P Club, 975-922. By firing 273, Longa once again led his pistol team. The "B's" now sport a record of 6-2.

Commissioners call pre-season meeting

It's that time of the year again, folks, to get out your old softball glove for the new softball season.

There will be an organizational meeting for after-hours softball competition on Wednesday, April 7, at 5 p.m. in the GAA office in Plant 30. Each team should have a representative at the meeting and any players not attached to a team who wish to play should contact Chet Baumgartner on Ext. 2133.

Those who spend their lunchtime playing intramural softball should send a team representative to one of the following meetings. Those who would like to join a lunchtime team should contact the men listed with the respective leagues:

PLANT 1 — Monday, April 12, 12:15 p.m., Receiving area; Lou Trapani, Ext. 2458.

PLANT 2 — Tuesday, April 13, 12:15 p.m., conference room next to plant manager's office; Frank D'Elio, Ext. 84544.

PLANT 3 — Wednesday, April 14, 11:50 a.m., conference room; Grant Thompson, Ext. 2495.

PLANTS 6, 7, 8 — Thursday, April 15, 11:50 a.m., Plant 6 conference room; Ernie Maggi, Ext. 6772; Joe Mallins, Ext. 7116.

PLANTS 43, 44 — Tuesday, April 20, 11:30 a.m., conference room; Charlie Greco, Ext. 7757.

NITE OWLS — Thursday, April 22, 9 p.m., Plant 2 conference room; Bill Wallace, Ext. 3182 or Walter Lampkin, Ext. 7995.

Riding on air

The call is out for any Grummanites interested in forming a Grumman Soaring Club to contact Kurt Reupke. According to Reupke, the club would be operating out of Randall Airport in Middleton, N.Y.

If you're interested, call Reupke on Ext. 7044 between 12:10 to 12:50 p.m. or at his home after work at 221-2447.

Summer bowling

Any keglers interested in bowling this summer in the Rainbow Mixed league should attend the organizational meeting slated for Wednesday, May 19, at the Syosset Lanes on Jericho Turnpike at 6:30 p.m.

The summer league will begin its 13-week season on Wednesday, May 26. For further information, call George Perry on Ext. 84116

WAG kick-off. Amateur Radio Club members have already begun contacting Grumman ham operators for their bicentennial contest. (Photo by Jim Wagner)

Radio club gets into spirit

On Wednesday, March 17, Skip Courtney, Grumman Amateur Radio Club president, officially kicked off the club's bicentennial "WAG" contest.

According to Courtney, "WAG"—Worked All Grummanites—is a contest in which a ham operator must make contact with 10 other Grumman amateur radio operators. In following the bicentennial theme, the club hopes to have 200 Grumman radio operators contacted before the end of 1976.

The contest is open to all Grumman amateur radio buffs and their families. For more details, contact one of the following club members: Courtney, Ext. 2536; Joe Nehm, Ext. 1387; Emmett Goodman, Ext. 87125; Ray Neubeck, Ext. 7088; or Rod Lum, Ext. 7393.

Nearing 'impossible dream'—100% GAA participation

From early returns, it is safe to predict that this year will be a vintage year for the Grumman Athletic Association membership drive. "All the departments that have returned their ticket stubs have hit the 100 percent mark," says Mike Cherry, who is heading the campaign again this year.

If you haven't bought your 1976 GAA membership ticket, you've got only three more working days left. You'll not only join the thousands of other people who have supported GAA, but you'll also be in the running for one of 15 $100 U.S. Savings Bonds that will be awarded at the conclusion of the drive.

The GAA membership campaign ends Wednesday, March 31. If you haven't already passed a buck to GAA, you can still become a member by contacting your supervisor for a ticket. If your supervisor has no more tickets, call Mike Cherry—he'll be glad to personally sell you one.

The latest additions to the growing list of 100-percent departments follows:

PLANT 1 — Major Assy., Sub-Assembly, Project Proposals, Prod. Mfg. Admin., Space Mfg. Staff, Tool Maint. Repair, Office Mgmt., Plt. Material Mgmt., Ops. Quality Prog.

PLANT 2 — Router & Shear, Saw, Controls, Ordnance, Indust. Controls/Facil. Maint., Employee Services.

PLANT 3 — Machine Ops, Indust. Controls/Facil. Maint., Parts Paint, Honeycomb Core Details, Wing Sub-Assemb., Wing Final Assemb., Ctr.-Sect.-Final, Honeycomb Pre-fit, Honeycomb Prep., Engraving, Final Assembly, Inspection.

PLANT 4 — Mgmt/Staff, Final Assembly, Planning, Indust. Engg., Methods Engg., Gulfstream Ops. Flt., Commercial/Special Projects, Plt. Material Mgmt, Inspection.

PLANT 5 — Indust. Controls/Facil. Maint., Inventory Records, Space Prog. Staff, Program Mgmt.-Space, Army Programs, DOD-Program Staff, Resources Mgmt/Staff, Environmental Control/Test, Maint. Facil. Equipment, Maint. Re-arrangement, Avionics Prod. Mgmt/Staff, Corp. Systems/Procedures, L.I. Ops. Mgmt/Staff, Admin. Serv. Mgmt/Staff, Major Assembly, Mech. Structure/Proto., Wood Shop, Instru. Planning/Control, Planning, Prod. Mfg. Mgmt/Staff, Prod. Mfg. Admin., Inspection, Ops. Quality, Office Mgmt, Corporate Plan, Control/Budgets.

PLANT 6 — Avionics Prod. Mgmt/Staff, Instru. Plan./Control, Office Mgmt., Industrial Controls/Facil. Maint.

PLANT 12 — Resources Mgmt./Staff, Industrial Controls/Facil. Maint.

PLANT 14 — Stock rooms, Electronic Test, Hydraulics, Avionics Prod. Mgmt./Staff, Prod. Mfg. Mgmt/Staff, Prod. Mfg. Budgets.

PLANT 15 — Ops. Quality Programs, Prog. Material Mgmt., Office Mgmt.

PLANT 17 — Stock Room, Plt. Material Mgmt., Warehouse, Gov't Material Control.

PLANT 21 — Warehouse, Offsite Control.

PLANT 24 — Warehouse.

PLANT 25 — Program Material Mgmt., Office Mgmt., Info./Rec. Services, Prog. Planning Control/Budgets., Maint. Equip., Maint. Re-arrangement.

PLANT 26 — Research.

PLANT 30 — Mechanical Engg., Finance/Planning, Procurement Small Business, Procurement/Financial Controls, General Commodities, Arch. Engg., Civil Engg., Projects Facil. Engg., Inventory Records, Comm. Adm./Staff, Procurement Services, Machine Parts/Raw Materials, Prog. Material Mgmt., Property Disposition, Material Shortage Control, Inventory Planning, Adv. Planning.

PLANT 34C — Office Mgmt.

PLANT 35 — Ops. Quality Admin., Ops. Quality Personnel, Budgets/Business Office, Survey, Systems & Procedures, Staff Admin. Inspection, Reps-Inspection, Office Mgmt.

PLANT 36 — Sub-Assembly, A-6E Inner Panel, E-2C Fuselage, Transportation.

PLANT 37 — Warehouse.

PLANT 40 — Ops. Quality Programs, Office Mgmt., Prog. Plan. Control/Budgets, E.W. Programs, Program Material Mgmt.

PLANTS 43/44 — Industrial Controls/Facil. Maint., Liason Engg., Medical, Administration, Config. Data Magmt., ESO, Management, Navy Office, Prod. Release/Analysis, Safety, Chemical Engg., Schedule/Status, Grnd. Support Ops. Engg., Planning/Anal., Mfg. M/5, Elec. Harness Fab., Elec. Cable Fab., Electronic Test, Prod. Mgmt./Staff.

PLANT 52 — Space Programs Staff.

PLANT 57 — MCAS, Cherry Point, N.C.

PLANT 59 — Pueblo, Colorado High Speed Ground Test Center.

HQ — Facilities Maint.

ALL PLANTS — Safety, Receiving/Shipping Inspection, Tool Inspection, Technical Services Inspection.

Oops!

In the last issue of PLANE NEWS, we mentioned that Bob Cruz of Plant 1 was a former high-school wrestling champ. Well, there are two inspectors named Bob Cruz—the Bob in Plant 1 is not a former wrestler, the Bob in Plant 3 is.

Mets tix

GAA recently announced the three Grumman Nites at Shea Stadium: July 30, Mets vs. Philadelphia; August 27, Los Angeles; and September 17, Pittsburgh. Tickets are $3.50 and round-trip bus fare will also be available for $2 apiece. More information will be given in a future issue

'Pride' brings congrats. The Major Sub-Assembly Department in Plant 1 continues to make headlines in the 'Pride of Workmanship' program at Grumman, with the group's most recent achievement bringing second-level recognition awards from the company. Here, Sam Avati, Plant 1 manager, not only brings the good news but also the awards of coffee mugs to some of the members of foreman Paul Giwoyna's department.

More on Strang ...

(Continued from page 7)

without pay.

Shortly, Grummanites will receive a Strang Clinic folder in the mail that will list the various tests and serve as a reminder of the program. Additional information and brochures may be obtained from Employee Services offices. But in going over reasons for the checkup, something else should be considered: whatever the price or inconvenience, a timely health examination conducted by a qualified clinic could become the best bargain of a lifetime.

GRUMMAN plane news

ADDRESS CORRECTION REQUESTED

BULK RATE
POSTAGE PAID
BETHPAGE, N.Y. 11714
PERMIT NO. 284

Vol. 35, No. 6, March 26, 1976, Bethpage, N.Y. 11714